

# Plant Disease in Kansas

## Early Wheat yields Indicate the Effects of Disease

### Special points of interest:

- *Surprising yields in south central Kansas.*

It is perhaps too early to tell but indications from south central Kansas are of higher expected yields from producers. Did late rains help out more than anticipated? Yes they probably did but one important fact that should be noted is the lack of foliar disease in the crop this year (levels of less than 2-4% severity are common). We seem to forget that drought does have an upside when we are talking about plant health.

I am primarily speaking about leaf (3.8% avg loss) and stripe (2.1% avg loss) rusts. These two diseases are number one and two in regards to historical losses. When moisture is available both in Kansas and in areas to our south where much of our early inoculum blows in, we see major disease epidemics. In years of drought, we see less

disease pressure. Last year, we saw a stripe rust epidemic in west central and northwest Kansas but it did cause an estimated six per cent loss overall in south central with an estimate of thirteen per cent on susceptible varieties. Similar numbers have been made for leaf rust, the number one disease to Kansas wheat. It is not hard to imagine a twenty to thirty per cent increase in yields from the lack of rust and other foliar diseases this year on susceptible wheats. Conservatively, that is a six to nine bushel increase in production per acre from the lack of foliar disease in this drought year.

Will the trend hold? It looks like it will for the most part. Leaf and stripe rust were building up in green wheat in north west Kansas last week but for

the most part, the Kansas crop is made and being harvested.

Other news that is coming out is that Super Wheats may not be too far off from the producer (early this week from a meeting at University of Minnesota/USDA Cereal Rust Laboratory). Wheats with wide resistance to stem rust, stripe rust, and leaf rust are soon to be released and estimated to increase potential yields by almost fifteen per cent. Perhaps the bad news is that Ug99, a stem rust with a high risk factor present in Africa and some parts of Middle East is spreading and may soon threaten other wheat producing regions of the world. The unrest in the Middle East has made monitoring difficult especially in the country of Yemen. Grain shortages are playing a role in the unrest of the region.

## Pines dying across western Kansas—Pine Wilt?

A number of pines across southwest, west central, and northwest Kansas are dead and can be easily observed by visual survey (Jim Strine, KFS and J Appel, KDA). If you remember, pine wilt finds were up this year with reports in Garden City, Jetmore, Meade, Colby, and other sites. We continue to take samples and look for the disease but for the most part,

samples have been negative. So what is going on? Most likely, drought is the primary factor. Pines need water and unlike deciduous trees that lose their leaves in the winter, are physiologically active for a longer period of time. This drought has been brutal on them. Nearly all the trees I observed this past week and in recent

visits to the western regions have been in localized sites away from landscape irrigation systems. In addition some of the temperature swings of this winter likely added to the problem. A severely stressed plant simply does not acclimate to rapid temperature change as does a healthy plant. The result is a lot of dead pines.

PLANT PROTECTION AND WEED CONTROL  
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**INVASIVE SPECIES**

**Plant Protection and Weed Control Program**

Plant Protection and Weed Control staff work to ensure the health of the state's native and cultivated plants by excluding or controlling destructive pests, diseases and weeds. Staff examine and analyze pest conditions in crop fields, rangelands, greenhouses and nurseries. Action taken to control potential infestations of new pests, whether they are insects, plants diseases or weeds, is beneficial to the economy and the environment.

**Our Mission is to:**

- Exclude or control harmful insects, plant diseases, and weeds;
- Ensure Kansas plants and plant products entering commerce are free from quarantine pests;
- Provide customers with inspection and certification services.

The Plant Disease Survey in Kansas has been conducted since 1976. The survey addresses disease situations in field crops, native ecosystems, and horticultural trade. The Kansas Department of Agriculture works cooperatively with Kansas State University and Extension programs, United States Department of Agriculture, and various commodity groups.